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**What is claimed is:**

1           1. A method of implementing real-time video-  
2 audio interaction by data synchronization in an  
3 Internet game, comprising the steps of:  
4           establishing an Internet transmission channel  
5               between a first internet game client and a  
6               second internet game client, wherein the  
7               Internet transmission channel is not  
8               connected to an Internet game server;  
9           executing an internet game in the first Internet  
10           game client and the second internet game  
11           client and connecting the first and second  
12           Internet game clients to the internet game  
13           server;  
14           retrieving first real-time video data and first  
15           real-time audio data in the first internet  
16           game client in the Internet game;  
17           compressing/encoding the first real-time video  
18           data into a plurality of first video data  
19           frames, and compressing/encoding the first  
20           real-time audio data into a plurality of  
21           first audio data packets in the first  
22           Internet game client;  
23           packaging the first video data frames and the  
24           first audio data packets into a transmission  
25           package in the first Internet game client  
26           and attaching a time stamp to transmission  
27           package, wherein the time stamp expresses

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28           the synchronous relationship between the  
29           first real-time video and audio data;  
30       transmitting the transmission package to the  
31           second Internet game client through the  
32           Internet transmission channel;  
33       decoding the transmission package into second  
34           real-time video data and second real-time  
35           audio data in the second Internet game  
36           client; and  
37       synchronizing the second real-time video and  
38           audio data according to the time stamp, and  
39           outputting the second real-time audio and  
40           video data in the second Internet game  
41           client in the Internet game.

1           2.   The method as claimed in claim 1, wherein  
2       the establishment of the Internet transmission channel  
3       further comprises the steps of:  
4           designating an Internet address of the second  
5           Internet game client directly or according  
6           to a directory by the first Internet game  
7           client, wherein the directory includes the  
8           Internet address of the second Internet game  
9           client;  
10       transmitting a connection request from the first  
11           Internet game client to the second Internet  
12           game client; and  
13       establishing the Internet transmission channel by  
14           the second Internet game client in response  
15           to the connection request.

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1           3.    The method as claimed in claim 1, wherein if  
2   the bandwidth of the Internet transmission channel  
3   cannot transmit the first real-time audio data and the  
4   first real-time video data simultaneously, the first  
5   real-time audio data takes priority over first real-  
6   time video data.

1           4.    The method as claimed in claim 1, wherein  
2   the time stamp provides is time information required  
3   to produce the first real-time video data and the  
4   first real-time audio data.

1           5.    The method as claimed in claim 1, wherein  
2   the synchronization is achieved by adding the system  
3   time of the second internet game client to the time  
4   stamp to generate the display time of the second real-  
5   time video and audio data.

1           6.    The method as claimed in claim 1, wherein  
2   synchronization is achieved by comparing the time  
3   stamp the amount of the frames dropped by the second  
4   real-time video data.

1           7.    The method as claimed in claim 1, wherein  
2   playback of the second real-time video data is  
3   accomplished by integrating the second real-time video  
4   data into the game environments of the Internet game  
5   as texture mapping.

1           8.    A system of implementing real-time video-  
2   audio interaction by data synchronization in an  
3   Internet game, comprising:

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4 an Internet game server, executing an Internet  
5 game; and  
6 a plurality of Internet game clients, comprising  
7 a first Internet game client, a second  
8 Internet game client, and an Internet  
9 transmission channel, the first and the  
10 second Internet game clients connecting to  
11 the Internet game server, the Internet  
12 transmission channel coupled to the first  
13 Internet game client and the second Internet  
14 game client

1 9. The system as claimed in claim 8, wherein  
2 the first internet game client further comprises:  
3 a real-time data retriever, retrieving first  
4 real-time video data and first real-time  
5 audio data from the first Internet game  
6 client;  
7 a data encoder, coupled to the real-time data  
8 retriever, compressing/encoding the first  
9 real-time video data into a plurality of  
10 first video data frames, and compressing  
11 /encoding the first audio data into a  
12 plurality of first audio data packets;  
13 a transmission packager, coupled to the data  
14 encoder, packaging the first video data  
15 frames and the first audio data packets into  
16 a transmission package and attaching a time  
17 stamp into the transmission package, wherein  
18 the time stamp expresses the synchronous

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19           relationship between the first real-time  
20           video data and the first real-time audio  
21           data; and  
22           an Internet sender, coupled to the transmission  
23           packager, transmitting the transmission  
24           package to the second Internet game client  
25           through the Internet transmission channel.

1           10. The system as claimed in claim 9, wherein if  
2           the bandwidth of the Internet transmission channel  
3           cannot transmit the first real-time audio data and the  
4           first real-time video data simultaneously, the first  
5           real-time audio data takes priority over first real-  
6           time video data.

1           11. The system as claimed in claim 9, wherein  
2           the time stamp provides the time information required  
3           to produce the first real-time video data and the  
4           first real-time audio data.

1           12. The system as claimed in claim 8, wherein  
2           the second Internet game client further comprises:  
3           a data decoder, coupled to the Internet  
4           transmission channel, decoding the  
5           transmission package into second video data  
6           and second audio data;  
7           a video-audio playback system, coupled to the  
8           data decoder, synchronizing the second real-  
9           time video and the second real-time audio  
10          data according to the time stamp and

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11                   outputting the second video data and the  
12                   second audio data.

1           13. The system as claimed in claim 12, wherein  
2   synchronization is achieved by adding the system time  
3   of the second internet game client to the time stamp  
4   to generate the display time of the second real-time  
5   video and audio data.

1           14. The system as claimed in claim 12, wherein  
2   synchronization is achieved by comparing the time  
3   stamp the amount of the frames dropped by the second  
4   real-time video data.

1           15. The system as claimed in claim 12, wherein  
2   the video-audio playback system integrates the second  
3   real-time video data into the game environments of the  
4   Internet game as texture mapping.

1           16. The system as claimed in claim 8, wherein  
2   the internet transmission channel is established by  
3   assigning an Internet address to the second Internet  
4   game client directly or according to a directory by  
5   the first Internet game client, transmitting a  
6   connecting request from the first Internet game client  
7   to the second Internet game client, and the second  
8   Internet game client establishing the Internet  
9   transmission channel according to the connecting  
10   request, wherein the directory includes the Internet  
11   address of the second Internet game client.

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1           17. A method of implementing real-time  
2 interaction by video-audio synchronization between  
3 Internet game clients, wherein the Internet game  
4 client connects to an Internet game server, and  
5 executes an Internet game, comprising the steps of:  
6           establishing an Internet transmission channel to  
7           an external Internet game client, wherein  
8           the Internet transmission channel is not  
9           connected to the Internet game server;  
10          a real-time data retriever retrieving first real-  
11          time video data and first real-time audio  
12          data;  
13          compressing/decoding the first real-time video  
14          data and the first real-time audio data into  
15          a first transmission package and attaching a  
16          time stamp to the transmission package,  
17          wherein the time stamp expresses the  
18          synchronous relationship between the video  
19          and audio data;  
20          transmitting the first transmission package  
21          through the Internet transmission channel;  
22          receiving a second transmission package through  
23          the Internet transmission channel;  
24          decompressing/decoding the second transmission  
25          package into second real-time video data and  
26          second real-time audio data; and  
27          synchronizing the second real-time video and the  
28          second real-time audio data according to the  
29          time stamp, and outputting the second real-

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30           time audio data and video data in the game  
31           environment.

1           18. The method as claimed in claim 17, wherein  
2           the establishment of the Internet transmission channel  
3           further comprises the steps of:

4           designating an Internet address of a third  
5           external Internet game client by the  
6           Internet game client or the external  
7           Internet game client;

8           transmitting a connecting request to the third  
9           Internet game client by the Internet game  
10          client or the external Internet game client  
11          according to the Internet address; and

12          establishing the Internet transmission channel  
13          between the Internet game client and the  
14          third Internet game client.

1           19. The method as claimed in claim 17, wherein  
2           if the bandwidth of the internet transmission channel  
3           cannot transmit the first real-time audio data and the  
4           first real-time video data simultaneously, the first  
5           real-time audio data takes priority over first real-  
6           time video data.

1           20. The method as claimed in claim 17, wherein  
2           in the establishing step, the Internet transmission  
3           channel is established according to a directory,  
4           having an Internet address of the third external  
5           Internet game client.



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1           21. The method as claimed in claim 17, wherein  
2       synchronization is achieved by adding the system time  
3       of the second internet game client to the time stamp  
4       to generate the display time of the second real-time  
5       video and audio data.

1           22. The method as claimed in claim 17, wherein  
2       synchronization is achieved by comparing the time  
3       stamp the amount of the frames dropped by the second  
4       real-time video data.

1           23. The method as claimed in claim 17, wherein  
2       playback of the second video data is accomplished by  
3       integrating the second real-time video data into the  
4       game environment as texture mapping.

1           24. A storage medium for storing a computer  
2       program providing a method of implementing real-time  
3       video-audio interaction by data synchronization  
4       between Internet game clients, wherein the Internet  
5       game client connects to an Internet game server, and  
6       executes an Internet game, the computer program  
7       comprising using a computer to perform the steps of:  
8           establishing an Internet transmission channel to  
9           an external Internet game client, wherein  
10          the Internet transmission channel is not  
11          connected to the Internet game server;  
12          a real-time data retriever retrieving first real-  
13          time video data and first real-time audio  
14          data;

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15 compressing/decoding the first real-time video  
16 data and the first real-time audio data into  
17 a first transmission package, and attaching  
18 a time stamp into the transmission package,  
19 wherein the time stamp expresses the  
20 synchronous relationship between the video  
21 and audio data;  
22 transmitting the first transmission package  
23 through the Internet transmission channel;  
24 receiving a second transmission package through  
25 the Internet transmission channel;  
26 decompressing/decoding the second transmission  
27 package into second real-time video data and  
28 second real-time audio data; and  
29 synchronizing the second real-time video and the  
30 second real-time audio data according to the  
31 time stamp, and outputting the second real-  
32 time audio data and video data in the game  
33 environment.

1 25. The method as claimed in claim 24, wherein  
2 the establishment of the Internet transmission channel  
3 further comprises the steps of:  
4 designating an Internet address of a third  
5 external Internet game client by the  
6 Internet game client or the external  
7 Internet game client;  
8 transmitting a connecting request to the third  
9 Internet game client by the Internet game

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10 client or the external Internet game client  
11 according to the Internet address; and  
12 establishing the Internet transmission channel  
13 between the Internet game client and the  
14 third Internet game client.

1 26. The method as claimed in claim 24, wherein  
2 if the bandwidth of the internet transmission channel  
3 cannot transmit the first real-time audio data and the  
4 first real-time video data simultaneously, the first  
5 real-time audio data takes priority over first real-  
6 time video data.

1 27. The method as claimed in claim 24, wherein  
2 in the establishing step, the Internet transmission  
3 channel is established according to a directory,  
4 having an Internet address of the third external  
5 Internet game client.

1 28. The method as claimed in claim 24, wherein  
2 synchronization is achieved by adding the system time  
3 of the second internet game client to the time stamp  
4 to generate the display time of the second real-time  
5 video and audio data.

1 29. The method as claimed in claim 24, wherein  
2 synchronization is achieved by comparing the time  
3 stamp the amount of the frames dropped by the second  
4 real-time video data.

1 30. The method as claimed in claim 24, wherein  
2 playback of the second video data is accomplished by

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3 integrating the second real-time video data into the  
4 game environment as texture mapping.

1        31. A computer system of an Internet game,  
2 executing an Internet game and having a storage medium  
3 for storing a computer program, wherein the computer  
4 program is applied to a computer system and executes  
5 the method of real-time video-audio interaction  
6 between Internet game clients, the Internet game  
7 client connecting to an Internet game server,  
8 executing an Internet game, and outputting a game  
9 environment, the method comprising the steps of:  
10        establishing an Internet transmission channel to  
11                an external Internet game client, wherein  
12                the Internet transmission channel is not  
13                connected to the Internet game server;  
14        a real-time data retriever retrieving first real-  
15                time video data and first real-time audio  
16                data;  
17        compressing/decoding the first real-time video  
18                data and the first real-time audio data into  
19                a first transmission package, and attaching  
20                a time stamp into the transmission package,  
21                wherein the time stamp expresses the  
22                synchronous relationship between the video  
23                and audio data;  
24        transmitting the first transmission package  
25                through the Internet transmission channel;  
26        receiving a second transmission package through  
27                the Internet transmission channel;

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28 decompressing/decoding the second transmission  
29 package into second real-time video data and  
30 second real-time audio data; and  
31 synchronizing the second real-time video and the  
32 second real-time audio data according to the  
33 time stamp, and outputting the second real-  
34 time audio data and video data in the game  
35 environment.

1 32. The method as claimed in claim 31, wherein  
2 the establishment of the Internet transmission channel  
3 further comprises the steps of:  
4 designating an Internet address of a third  
5 external Internet game client by the  
6 Internet game client or the external  
7 Internet game client;  
8 transmitting a connecting request to the third  
9 Internet game client by the Internet game  
10 client or the external Internet game client  
11 according to the Internet address; and  
12 establishing the Internet transmission channel  
13 between the Internet game client and the  
14 third Internet game client.

1 33. The method as claimed in claim 31, wherein  
2 if the bandwidth of the internet transmission channel  
3 cannot transmit the first real-time audio data and the  
4 first real-time video data simultaneously, the first  
5 real-time audio data takes priority over first real-  
6 time video data.

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1           34. The method as claimed in claim 31, wherein  
2     in the establishing step, the Internet transmission  
3     channel is established according to a directory,  
4     having an Internet address of the third external  
5     Internet game client.

1           35. The method as claimed in claim 31, wherein  
2     synchronization is achieved by adding the system time  
3     of the second internet game client to the time stamp  
4     to generate the display time of the second real-time  
5     video and audio data.

1           36. The method as claimed in claim 31, wherein  
2     synchronization is achieved by comparing the time  
3     stamp the amount of the frames dropped by the second  
4     real-time video data.

1           37. The method as claimed in claim 31, wherein  
2     playback of the second video data is accomplished by  
3     integrating the second real-time video data into the  
4     game environment as texture mapping.

1           38. A method of implementing real-time video-  
2     audio interaction by data synchronization in an  
3     internet game for applying in a first Internet game  
4     client and a second Internet game client, wherein the  
5     first and second Internet game client execute an  
6     Internet game and connect to an Internet game server,  
7     comprising the steps of:

8           establishing an Internet transmission channel  
9           between the first Internet game client and

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10           the second Internet game client, wherein the  
11           Internet transmission channel is not  
12           connected to the Internet game server;  
13       retrieving first real-time video data and first  
14           real-time audio data in the first Internet  
15           game client;  
16       producing a plurality of first video data frames  
17           and a plurality of first audio data packets;  
18       packaging the first video data frames and the  
19           first audio data packets into a transmission  
20           package and attaching a time stamp into the  
21           transmission package, wherein the time stamp  
22           expresses the synchronous relationship  
23           between the first real-time video and audio  
24           data;  
25       transmitting the transmission package to the  
26           second Internet game client;  
27       decoding the transmission package into second  
28           real-time video data and second real-time  
29           audio data; and  
30       synchronizing the second real-time audio and  
31           video data according to the time stamp, and  
32           outputting the second real-time audio data  
33           and video data in the Internet game in the  
34           second Internet game client.

1       39. The method as claimed in claim 38, wherein  
2       the establishing step further comprises the steps of:  
3       designating an Internet address of the second  
4       Internet game client directly or according

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5           to a directory by the first Internet game  
6           client, wherein the directory includes the  
7           Internet address of the second Internet game  
8           client;  
9           transmitting a connection request from the first  
10          Internet game client to the second Internet  
11          game client; and  
12          establishing the Internet transmission channel by  
13          the second Internet game client in response  
14          to the connection request.

1          40. The method as claimed in claim 38, wherein  
2          the first real-time audio data is primarily packaged  
3          in the first transmission package, and the remaining  
4          bandwidth is used for packaging the first real-time  
5          video data.

1          41. The method as claimed in claim 38, wherein  
2          the first video data frames and the first audio data  
3          frames are produced by compressing/encoding.

1          42. The method as claimed in claim 38, wherein  
2          the transmission package is transmitted to the second  
3          Internet game client through the Internet transmission  
4          channel.

1          43. The method as claimed in claim 38, wherein  
2          the synchronization is based on system time of the  
3          second Internet game client adding the time stamp as  
4          display time of the second real-time video and audio  
5          data.



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44. The method as claimed in claim 38, wherein synchronization is achieved by comparing the time stamp the amount of the frames dropped by the second real-time video data.

5        45. A system of implementing real-time video-audio interaction by data synchronization in an Internet game for application to a first Internet game client, a second Internet game client, and an internet game server, wherein the Internet game server executes  
10 an Internet game, the system comprising:

an Internet transmission channel, the first  
Internet game client and the second Internet  
game client connecting to the Internet game  
server to execute the Internet game, the  
15 Internet transmission channel coupled to the  
first and second Internet game clients to  
execute real-time video-audio interaction.